

WHAT IS CLAIMED:

1. A method for generating an antibody-producing cell that produces an antibody to a desired antigen comprising the steps of:
 - 5 (a) contacting antibody-producing cells with the desired antigen in a manner effective to induce the cells to produce antibodies against the antigen, wherein the antibody-producing cells are capable of being immortalized without forming hybridomas; and
 - 10 (b) immortalizing the antibody-producing cell.
2. The method of claim 1, wherein the antibody-producing cell comprises a transforming oncogene that is conditionally functional or conditionally expressed, and the immortalization is effected by inducing said transforming oncogene.
- 15 3. The method of claim 2, wherein the conditionally functional transforming oncogene is a temperature sensitive SV40 Large Tumor antigen (tsSV40Tag).
4. The method of claim 3, wherein the tsSV40Tag is an A58S-SV40Tag.
- 20 5. The method of claim 4, wherein the transforming oncogene is induced by culturing the antibody producing cells at from 25°C to 35°C.
6. The method of claim 5, wherein the antibody producing cells are cultured at from 30°C to 35°C.
- 25 7. The method of claim 6, wherein the antibody producing cells are cultured at 33°C.
8. The method of claim 5, wherein said antibody-producing cells are cultured in hybridoma culture medium.
- 30 9. The method of claim 5, further comprising assessing the antibody producing capabilities of said antibody-producing cells.

10. The method of claim 9, wherein said assessing comprises assaying antibody binding to said desired antigen.
- 5 11. The method of claim 1, wherein single cells are selected and cultured to produce a monoclonal population that produce monoclonal antibodies.
12. The method of claim 11, wherein single cells are selected by dilution cloning.
- 10 13. The method of claim 1, wherein multiple cells are selected and cultured to produce a polyclonal population that produce polyclonal antibodies.
14. The method of claim 1, wherein the antibody-producing cell comprise spleen cells.
- 15 15. The method of claim 1, wherein the antigen is selected from the group consisting of peptides, proteins, glycoproteins, lipoproteins, carbohydrates, viruses, bacteria, pathogenic microorganisms, tissue, whole cells, biopsy tissue, patient-derived cells, tissue extracts, fresh or cultured tissues, apoptotic cells, subcellular components, membrane, cytoplasm, and nuclear fractions from cells and tissues, purified proteins, partially
- 20 purified proteins, laser captured tissue, paraffin embedded and fixed tissue.
16. The method of claim 15, wherein the tissue comprises subject-derived tumor tissue.
- 25 17. The method of claim 1, wherein the antibody-producing cells are obtained from a transgenic mouse having antibody-producing cells that are capable of being immortalized without forming hybridomas.
- 30 18. The method of claim 17, wherein the transgenic mouse comprises the genetic complement for producing human antibodies.

19. The method of claim 1, wherein the antibody-producing cells are comprised in a mouse, and the selected antigen is administered to the mouse in a manner effective to induce the antibody-producing cells to produce antibodies.
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20. The method of claim 1, wherein contacting with the desired antigen comprises co-culturing the antibody-producing cell with an antigen presenting cell.
21. The method of claim 20, wherein the antigen presenting cell is a dendritic cell.
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22. The method of claim 1, wherein in the antibody-producing cell comprises the genetic complement for human antibody production.
23. The method of claim 1, further comprising purifying antibodies produced by said antibody-producing cells.
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24. The method of claim 23, further comprising administering said antibodies to a subject in need of therapeutic antibodies.
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25. A method for generating an antibody-producing cell that produces a human antibody to a desired antigen comprising the steps of:
- (a) obtaining an antibody-producing cell that conditionally expresses a transforming oncogene or expresses a conditionally functional transforming oncogene and expresses the genetic complement for human antibody production, wherein immortalization of said antibody-producing cell is effected by inducing the expression or function of said transforming oncogene; and
 - 25 (b) contacting said antibody-producing cells with the desired antigen in a manner effective to induce the cells to produce human antibodies against the antigen, wherein said antibody-producing cells are capable of being immortalized without forming hybridomas; and
 - 30 (b) immortalizing said antibody-producing cell.

26. The method of claim 25, wherein the conditionally functional transforming oncogene is a temperature sensitive SV40 Large Tumor antigen (tsSV40Tag).
27. The method of claim 26, wherein the tsSV40Tag is an A58S-SV40Tag.
28. The method of claim 27, wherein the transforming oncogene is induced by culturing the antibody producing cells at from 25°C to 35°C.
29. The method of claim 28, wherein the antibody producing cells are cultured at from 30°C to 35°C.
30. The method of claim 29, wherein the antibody producing cells are cultured at 33°C.
31. The method of claim 25, wherein single cells are selected and cultured to produce a monoclonal population that produce monoclonal antibodies.
32. The method of claim 25, wherein multiple cells are selected and cultured to produce a polyclonal population that produce polyclonal antibodies.
33. The method of claim 25, wherein the antibody-producing cell comprise spleen cells.
34. The method of claim 25, wherein the antigen is selected from the group consisting of peptides, proteins, glycoproteins, lipoproteins, carbohydrates, viruses, bacteria, pathogenic microorganisms, tissue, whole cells, biopsy tissue, patient-derived cells, tissue extracts, fresh or cultured tissues, apoptotic cells, subcellular components, membrane, cytoplasm, and nuclear fractions from cells and tissues, purified proteins, partially purified proteins, laser captured tissue, paraffin embedded and fixed tissue.

35. The method of claim 34, wherein the tissue comprises subject-derived tumor tissue.
36. The method of claim 25, wherein the antibody-producing cells are obtained from
5 a transgenic mouse having antibody-producing cells that are capable of being immortalized without forming hybridomas.
37. The method of claim 25, wherein the antibody-producing cells are comprised in a mouse, and the selected antigen is administered to the mouse in a manner effective to
10 induce the antibody-producing cells to produce antibodies.
38. The method of claim 25, further comprising purifying antibodies produced by said antibody-producing cell.
- 15 39. The method of claim 38, further comprising administering said antibodies to a subject in need of therapeutic antibodies.